[CLAIMS]

1. An intraocular lens

characterised in that in the environment of immersion medium it refracts an incoming wave with an elliptically oblongly curved wave front into an outgoing wave with a substantially spherical wave front.

2. An intraocular lens according to claim 1

characterised by a positive refractive power in the environment of immersion medium and a negative spherical aberration.

3. An intraocular lens according to claim 2

characterised by a refractive power at the centre of the lens which in the environment of immersion medium is greater than or equal to +3 dpt, wherein the lens is so designed that in the environment of air it refracts an incoming wave with a substantially plane wave front into an outgoing wave with a hyperbolic wave front.

4. An intraocular lens according to claim 3

characterised in that the hyperbolic wave front has an asphericity of less than or equal to −5.

5. An intraocular lens according to one of claims 3 and 4

characterised in that the intraocular lens has at least one convexly curved surface whose curvature has an asphericity of less than or equal to −1.

6. An intraocular lens according to claim 1

characterised by a refractive power at the centre of the lens which in the environment of immersion medium is at most +2 dpt and at least −1 dpt, wherein the lens is so designed that an incoming wave with a substantially plane wave front is refracted into an outgoing wave whose apex surface has a meridian with an inflexion point.

7. An intraocular lens according to claim 1

characterised by a refractive power at the centre of the lens which in the environment of immersion medium is less than or equal to −2 dpt, wherein the lens is so designed that an incoming wave with a substantially plane wave front is refracted into an outgoing wave with an elliptically oblongly curved wave front whose asphericity measured in air is greater than +10.

8. A method of determining the imaging properties of an intraocular lens comprising the steps:

- producing a parallel light beam,
- orienting the light beam on to the intraocular lens,
- breaking the light beam refracted by the intraocular lens down into a plurality of focused beams by means of a lens arrangement, and
- detecting the local distribution of the beams focussed by means of the lens arrangement.